

claims 1-18 and 46 are canceled. Claims 25, 32, 40, 42, and 43 are canceled. Applicant respectfully traverses the rejections as conceivably applied to the amended claims.

Attached is a marked-up version of the changes made to the claims by the current amendment. The attachment is captioned "Version with Markings to Show Changes Made."

#### I. Non-Art Rejections

Applicant has rewritten the claims to overcome the indefiniteness rejections under 35 U.S.C. § 112, second paragraph.

Applicant respectfully traverses the lack-of-enablement rejection under 35 U.S.C. § 112, first paragraph regarding the "perforation" recitation as conceivably applied to claim 19 as amended. The standard for enablement is whether the patent specification teaches those of skill in the art how to practice the invention *without undue experimentation*.

The present specification teaches several size ranges for the perforations, as well as a typical uniform arrangement for the perforations. (Application, page 4, lines 28-31.) Figures 3 and 5 illustrate representative arrangements of the perforations 120 and 320. The specification also teaches the location of the perforations at the land areas. (Application at page 4, line 25.) Applicant respectfully submits that one of ordinary skill in the art, without undue experimentation, knows how to form sufficient perforations to allow water vapor to pass through the insulating sheet.

#### II. Art Rejections

##### A. Rejection Based on Orologio

The previously presented claims 19-45 and 47-50 were rejected under 35 U.S.C. § 103(a) as obvious in view of U.S. Patent 6,514,596 to Orologio.

Orologio fails to disclose, teach, or suggest an insulating sheet defining "a plurality of perforations through the first and second films in the land areas" as recited in amended independent claim 19. The previous Office Action recognized that Orologio fails to teach perforations. (Office Action mailed March 28, 2003 at page 6, lines 11-13.)

Thus, Applicant respectfully submits that a *prima facie* case of obviousness has not been established to shift the burden of rebuttal to the Applicant. One of the requirements of a *prima facie* case of obviousness is that the applied prior art reference must teach or suggest *all* of the claim limitations. MPEP §706.02(j). A claimed invention is not obvious in view of a combination of references that does not teach or suggest all of the claim recitations. MPEP §2143.03.

The previous Office Action states that “it is believed that a barrier sheet comprises a laminate of a perforated film and a moisture permeable and waterproof barrier backing is old and well known.” (Office Action mailed March 28, 2003 at page 6, lines 13-15.) If the Examiner is relying on this information as part of an obviousness rejection, Applicant respectfully requests that the Examiner supply references to support that this information is common knowledge or well-known prior art. *See* MPEP 2144.03.

The dependent claims include additional recitations and are therefore further patentable over Orologio.

**B. Rejection Based on Orologio Combined with Waggoner**

The previously presented claims 19-45 and 47-50 were also rejected under 35 U.S.C. § 103(a) as obvious in view of Orologio combined with U.S. Patent 6,355,333 to Waggoner.

The previous Office Action cites Waggoner to establish that “barrier sheet materials include . . . perforated polymer films.” (Office Action mailed March 28, 2003 at page 6, lines 19-21.) However, neither Waggoner nor Orologio teach or suggest a *perforated insulating sheet* having gas filled cavities, as recited in amended claim 19.

As a result, Waggoner fails to supplement Orologio to teach, disclose, or suggest an *insulating sheet* having “a plurality of gas-filled cavities” and that defines “a plurality of perforations through the first and second films in the land areas,” as recited in amended independent claim 19. Thus, even if Waggoner could be combined with Orologio, Applicant respectfully submits that a *prima facie* case of obviousness has not been established because the

proposed combination of references does not teach or suggest *all* of the claim recitations. MPEP §2143.03.

Applicant respectfully traverses the previous Office Action's position that "it would have been obvious . . . to perforate Orologio's insulation bubble bubble-pack in the land area, and laminate it to a . . . spunbonded polymer sheet" based on a motivation to improve the "moisture permeability and waterproof property." Neither Orologio nor Waggoner provides any suggestion or motivation to perforate the land areas. It is impermissible to use the present application as a source of motivation for modifying the prior art references to attempt to arrive at the presently claimed invention. MPEP 2142.

Further, Orologio teaches an insulation sheet that includes a sheet of aluminum foil to provide infra-red radiation insulation. (Column 2, lines 57-62; column 4, lines 10-17.) Thus there is no motivation to perforate the land areas of the sheet having air-filled cavities, because Orologio's foil sheet would still preclude water vapor transmission.

The dependent claims include additional recitations and are therefore further patentable over Orologio combined with Waggoner.

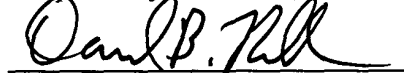
### III. Conclusion

In view of the above amendments and these remarks, it is respectfully submitted that the present application is in condition for allowance. A notice to that effect is earnestly and respectfully requested.

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**ATTACHMENT**

**Version with Markings to Show Changes Made**

In the Claims:

Claims 1-18, 25, 32, 40, 42-43, and 46 have been canceled.

Claims 19-24, 26-31, 33-39, 41, 44-45, and 47-50 have been amended as follows:

19. (Amended) An article composite material comprising:

an insulating sheet material comprising first and second films secured to each other at a plurality of land areas to an air-cellular material, wherein the air-cellular material defines a plurality of gas-filled cavities between the first and second films, having land areas separating the cavities and wherein the insulating sheet defines a plurality of perforations through the first and second films in the land areas allowing water vapor to pass through the insulating sheet define perforations; and

a backing sheet material disposed secured to the insulating sheet in generally contiguous relation to the insulating sheet material, wherein the backing sheet allows water vapor to pass through the backing sheet while preventing liquid water from passing through the backing sheet material comprises a moisture barrier material.

20. (Amended) The article composite material of Claim 19 further comprising a second backing sheet secured to the insulating sheet material in generally contiguous relation to the insulating sheet material, wherein the second backing sheet allows water vapor to pass through the second backing sheet while preventing liquid water from passing through the second backing sheet.

21. (Amended) The article composite material of Claim 20 wherein the insulating sheet material is positioned between the backing sheet material and the second backing sheet material.

22. (Amended) The article composite material of Claim 19 wherein the first and second films comprise thermoplastic films and the air-cellular material comprises first and second thermoplastic films are laminated together.

23. (Amended) The article composite material of Claim 19 22 wherein one or more of the first and second ~~thermoplastic~~ films comprise a coextruded film.

24. (Amended) The article composite material of Claim 19 23 wherein one or more of the first and second films comprises nylon ~~the coextruded film comprises a barrier film.~~

26. (Amended) The article composite material of Claim 19 22 wherein the first and second ~~thermoplastic~~ films comprise low density polyethylene ~~thermoplastic films.~~

27. (Amended) The article composite material of Claim 19 22 wherein the backing sheet material comprises a thermoplastic polymer material.

28. (Amended) The article composite material of Claim 19 27 wherein the backing sheet material has a fusion temperature at least slightly above a fusion temperature associated with the first and second films.

29. (Amended) The article composite material of Claim 19 27 wherein the backing sheet material comprises a high density polyethylene ~~thermoplastic film.~~

30. (Amended) The article composite material of Claim 19 22 wherein the first or second thermoplastic films comprise a polymer ~~are each independently selected from the group consisting of~~ polyvinyl chloride polymer films, polyvinylidene chloride polymer films, and olefinic polymer films.

31. (Amended) The article composite material of Claim 30 wherein the olefinic polymer comprises ~~films are selected from the group consisting of~~ polyethylene and polypropylene ~~polymer films.~~

33. (Amended) The article composite material of Claim 19 32 wherein the backing sheet material comprises a non-woven polyester.

34. (Amended) The article composite material of Claim 19 32 wherein the backing sheet material comprises an olefinic polymer.

35. (Amended) The article composite material of Claim 34 wherein the olefinic polymer comprises a polymer selected from one or more of polyethylene and polypropylene, or a combination thereof.

36. (Amended) The article composite material of Claim 19 32 wherein the backing sheet thermoplastic material comprises thermoplastic fibers.

37. (Amended) The article composite material of Claim 36 wherein the thermoplastic fibers comprise olefinic polymer fibers.

38. (Amended) The article composite material of Claim 37 wherein the olefinic polymer fibers are selected from the group consisting of polyethylene fibers and polypropylene fibers.

39. (Amended) The article composite material of Claim 19 wherein portions of the backing sheet material are laminated to the insulating sheet material.

41. (Amended) The article composite material of Claim 19 wherein portions of the backing sheet and the insulating sheet are adhesively secured to each other comprising an adhesive for securing portions of the backing material to the insulating material.

44. (Amended) The article composite material of Claim 19 comprising an adhesive along at least

a portion of the insulating sheet material for securing the article composite material to a structure.

45. (Amended) The article composite material of Claim 19 comprising an adhesive along at least a portion of the backing sheet material for securing the composite material to a structure.

47. (Amended) A method of forming the article composite material of Claim 19 comprising the steps of:

- providing the insulating sheet material;
- providing the backing sheet material; and
- securing the backing sheet material in generally superposed, contiguous relation to the insulating sheet material.

48. (Amended) A method for insulating a structure comprising the step of at least partially wrapping the structure with the article composite material of Claim 19.

49. (Amended) The method of Claim 48 wherein the article composite material is secured to the structure with an adhesive.

50. (Amended) The method of Claim 48 wherein the structure comprises is a building.